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TESTING
CNAS L6451



RADIO TEST REPORT

Applicant	:	Tsingoal (Beijing) Technology Co., Ltd.
Address of Applicant	:	Room A1002-1,Block A, 10th Floor,Building 1,Yard 1, Zhongguancun East Road,Haidian District,Beijing, China
Manufacturer	:	Tsingoal (Beijing) Technology Co., Ltd.
Address of Manufacturer	:	Room A1002-1,Block A, 10th Floor,Building 1,Yard 1, Zhongguancun East Road,Haidian District,Beijing, China
Equipment under Test	:	Positioning Device
Model No.	:	TB5000-AS
FCC ID	:	2BK5RTB5000-AS
Test Standard(s)	:	47 CFR Part 15 Subpart F ANSI C63.10-2020
Report No.	:	DDT-RE26011512-1E02
Issue Date	:	2026/04/10
Issue By	:	Guangdong Dongdian Testing Service Co., Ltd. Unit 2, Building 1, No. 17, Zongbu 2nd Road, Songshan Lake Park, Dongguan, Guangdong, China, 523808

REPORT

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Test Report Declare

Applicant	:	Tsingoal (Beijing) Technology Co., Ltd.
Address of Applicant	:	Room A1002-1,Block A, 10th Floor,Building 1,Yard 1, Zhongguancun East Road,Haidian District,Beijing, China
Equipment under Test	:	Positioning Device
Model No.	:	TB5000-AS
Manufacturer	:	Tsingoal (Beijing) Technology Co., Ltd.
Address of Manufacturer	:	Room A1002-1,Block A, 10th Floor,Building 1,Yard 1, Zhongguancun East Road,Haidian District,Beijing, China

Test Standard Used: 47 CFR Part 15 Subpart F

Test procedure used: ANSI C63.10-2020, KDB 393764 D01 v02

We Declare:

The equipment described above is tested by Dongguan Dongdian Testing Service Co., Ltd. and in the configuration tested the equipment complied with the standards specified above. The test results are contained in this test report and Dongguan Dongdian Testing Service Co., Ltd. is assumed of full responsibility for the accuracy and completeness of these tests.

After test and evaluation, our opinion is that the equipment provided for test compliance with the requirement of the above FCC standards.

Report No.:	DDT-RE26011512-1E02		
Date of Receipt:	2026/01/29	Date of Test:	2026/01/29 - 2026/04/03

Created: Chen Ziqin	Reviewed: Zoe Peng	Approved: Ella Gong
		
2026/03/31	2026/04/10	2026/04/10

Note: This report applies to above tested sample only. This report shall not be reproduced in parts without written approval of Guangdong Dongdian Testing Service Co., Ltd.

Revision History

Version	Revision Content	Issue Date	Approved
V0	Initial issue	2026/04/10	Ella Gong

1. Summary of Test Results

The EUT have been tested according to the applicable standards as referenced below.		
Description of Test Item	Standard	Verdict
UBW (-10 dB) Bandwidth	FCC 15.503(a) 15.517(b) ANSI C63.10-2020	Pass
Transmitter radiated Emissions	15.517(c)(d) ANSI C63.10-2020	Pass
Peak Emissions in a 50 MHz bandwidth	15.517(e) ANSI C63.10-2020	Pass
Power Line Conducted Emission	FCC 15.203	N/A
Antenna Requirement	FCC 15.203	Pass

2. General Test Information

2.1. Description of EUT

EUT* Name	: Positioning Device
Model Number	: TB5000-AS
EUT Function Description	: Please reference user manual of this device
Power Supply	: Battery 3.6V
Radio Technology	: UWB
FCC Operation Frequency	: 7163~8812 MHz
Frequency Band	: ≥ 500 MHz
Number of Channel	: CH01
Modulation	: BPSK
Antenna Type	: metal antenna, Antenna Gain(Max.): 3 dBi

Note: EUT is the ab. of equipment under test.

2.2. Accessories of EUT

Description of Accessories	Manufacturer	Model number	Description	Remark
/	/	/	/	/

2.3. Assistant equipment used for test

Assistant equipment	Manufacturer	Model number	EMC Compliance	SN
/	/	/	/	/

2.4. Block diagram of EUT configuration for test

EUT

2.5. Deviations of test standard

No Deviation

2.6. Test environment conditions

During the measurement the environmental conditions were within the listed ranges:

Temperature range:	21-25°C
Humidity range:	40-75%
Pressure range:	86-106kPa

2.7. Test laboratory

Guangdong Dongdian Testing Service Co., Ltd.

Add.: Unit 2, Building 1, No. 17, Zongbu 2nd Road, Songshan Lake Park, Dongguan, Guangdong, China, 523808.

Tel.: +86-0769-38826678, <http://www.dgddt.com>, Email: ddt@dgddt.com.

CNAS Accreditation No. L6451; A2LA Accreditation Number: 3870.01

FCC Designation Number: CN1182, Test Firm Registration Number: 540522

Innovation, Science and Economic Development Canada Site Registration Number: 10288A

Conformity Assessment Body identifier: CN0048

VCCI facility registration number: C-20087, T-20088, R-20123, R-20240, G-20118

2.8. Measurement uncertainty

Test Item	Uncertainty
Bandwidth	1.9%
Peak Output Power (Conducted) (Spectrum analyzer)	0.98 dB
Peak Output Power (Conducted) (Power Sensor)	1.18 dB
Power Spectral Density (Base EIRP)	1.51 dB
Power Spectral Density (Spectrum analyzer)	0.98 dB
Frequencies Stability	1.9 kHz
Conducted spurious emissions	1.21 dB ($9\text{ kHz} \leq f < 7\text{ GHz}$);
	3.31 dB ($7\text{ GHz} \leq f < 40\text{ GHz}$)
Uncertainty for radio frequency (RBW < 20 kHz)	5.5×10^{-8}
Time	0.11%
Temperature	0.3 °C
Humidity	2 %
Uncertainty for Radiation Emission test	3.44 dB
(9 kHz – 30 MHz)	
Uncertainty for Radiation Emission test	4.28 dB (Antenna Polarize: V)
(30 MHz - 1 GHz)	4.14 dB (Antenna Polarize: H)
Uncertainty for Radiation Emission test	4.22 dB (1 - 6 GHz)
(1 GHz - 40 GHz)	4.52 dB (6 GHz - 18 GHz)
	4.58 dB (18 GHz - 40 GHz)
Uncertainty for Power line conduction emission test	3.32dB (150KHz-30MHz)
	3.72dB (9KHz-150KHz)
Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.	

3. Equipment Used During Test

Equipment	Manufacturer	Model No.	Serial Number	Due Date
☐ RF Connected Test (RF Measurement System 3#)				
SIGNAL ANALYZER	R&S	FSV40	101407	2026/07/06
Wideband Radio Communication Tester	R&S	CMW500	117491	2027/02/27
EXG Analog Signal Generator	KEYSIGHT	N5173B	MY62153058	2026/07/06
MXG Vector Signal Generator	Agilent	N5182A	MY48180912	2027/02/27
RF Control Unit	Tonscend	JS0806-2	20C8060230	2027/03/16
TEMP&HUMI Programmable Chamber	ZHIXIANG	ZXGDJS-150L	ZX170110-A	2027/02/27
Test Software	Tonscend	JS1120-3	V3.6.21	N/A

4. UWB(-10 dB) Bandwidth

4.1. Block diagram of test setup

Same as section 4.1

4.2. Limits

A UWB transmitter is defined as “an intentional radiator that, at any point in time, has a fractional bandwidth equal to or greater than 0.20 or has a UWB bandwidth equal to or greater than 500 MHz, regardless of the fractional bandwidth.”

The upper boundary is designated f_H and the lower boundary is designated f_L . The frequency at which the highest radiated emission occurs is designated f_M .

The center frequency, f_C , equals $(f_H + f_L)/2$, and the fractional bandwidth equals $2(f_H - f_L) / (f_H + f_L)$

The UWB bandwidth of a device operating under the provisions of this section must be contained between 3100 MHz and 10,600 MHz.

4.3. Test procedure

(1) EUT set to test mode, connect EUT's antenna output to spectrum analyzer by RF cable.

(2) Set the spectrum analyzer as follows:

RBW:	1 MHz
VBW:	3 MHz
Detector Mode:	Peak
Sweep time:	auto
Trace mode	Max hold

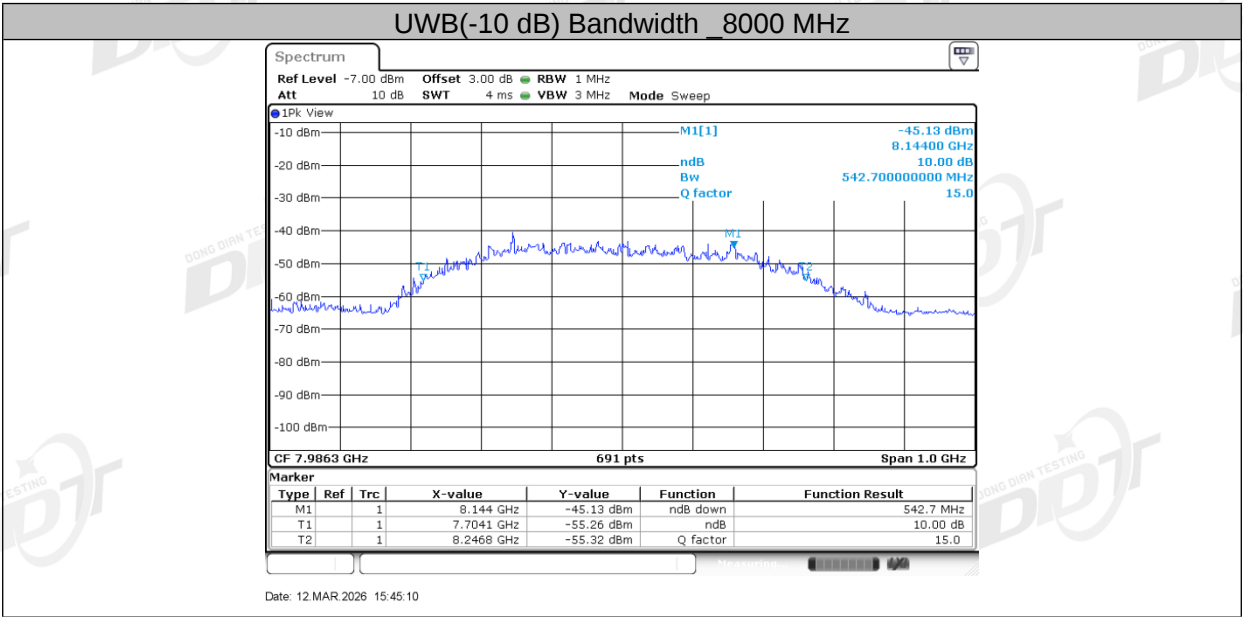
(3) Where the peak power falls by 10 dB relative to the level at f_M , searched the left and right edge in order to find f_H and f_L .

(4) Calculated fractional bandwidth.

4.4. Test result

10 dB Bandwidth (MHz):

Channel (MHz)	f_M (MHz)	f_L (MHz)	f_H (MHz)	f_C (MHz)	Measured Bandwidth (MHz)	Minimum Bandwidth (MHz)	Verdict
7987.2	8144	7704.1	8246.8	7975.4 5	542.7	500	Pass



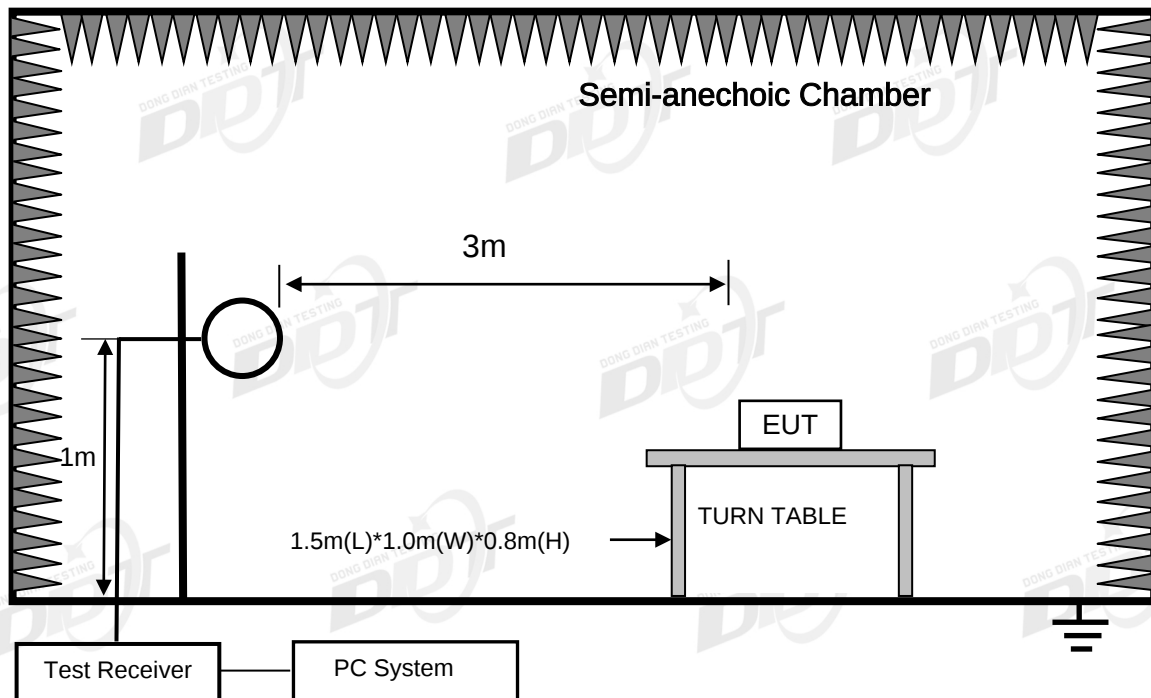
5. Radiated Spurious Emissions

5.1. Test equipment

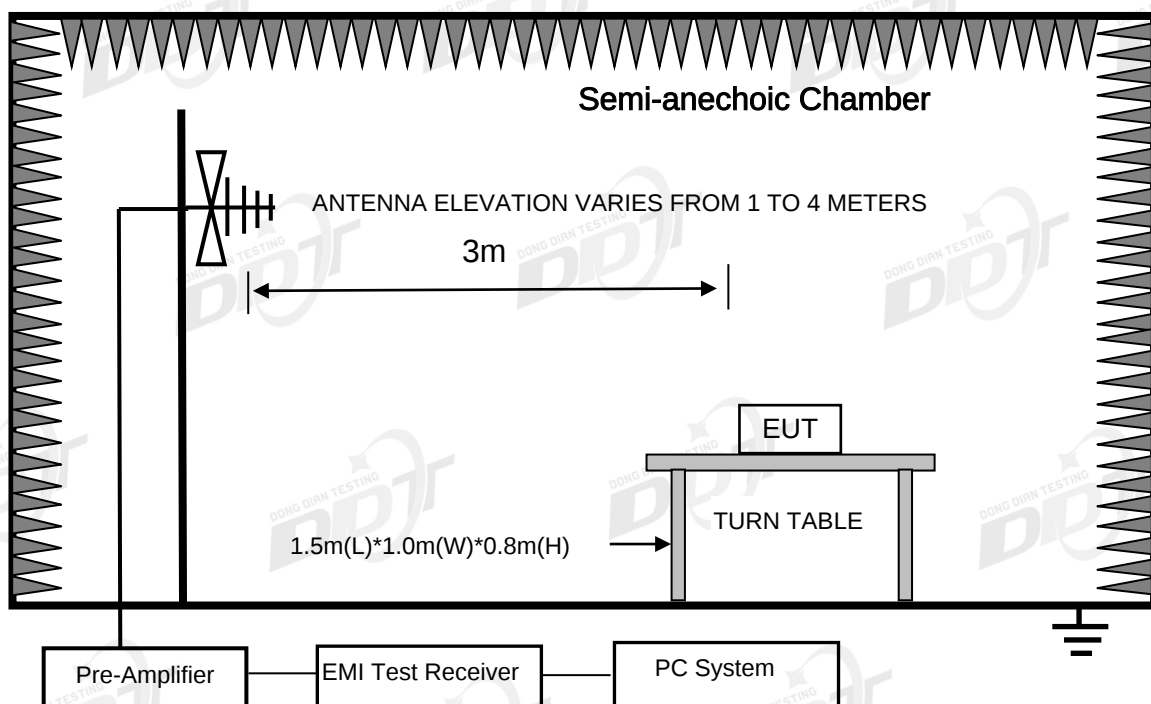
Equipment	Manufacturer	Model No.	Serial No.	Cal Due To
Band Reject Filter Group	Tonscend	JS0806-F	DDT-ZC05733	/
Hochgewinn-Hornantenne	SCHWARZBECK	BBHA 9120 D	DDT-ZC05922	2027/01/06
Broadband Preamplifier	HPX	BP-01G-18G	DDT-ZC05923	2027/01/06
Pre-amplifier	COM-POWER	PAM-840A	DDT-ZC01693	2027/03/05
Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	DDT-ZC00506	2027/03/04
Signal & Spectrum analyzer	R&S	FSV40-N	DDT-ZC04979	2026/07/04
SPECTRUM ANALYZER	R&S	FSU26	DDT-ZC00236	2026/07/06
High pass filter	Micro-Tronics	HPM50102	DDT-ZC00561	2027/02/27
Radiation disturbance fully automated test software	Tonscend	JS32-RE	DDT-ZC02739	/
Pre-amplifier	SONOMA	310N	DDT-ZC01969	2026/07/06
RF cable	Zhongke Junchuang	JCT26S-NJ-NJ-1.5M	DDT-ZC02762	/
RF cable	Yuhu Technology	ZT26S-SMAJ-SMAJ-1M	DDT-ZC02037	2026/10/10
Pre-amplifier	COM-POWER	PAM-840A	DDT-ZC01693	2027/03/05
Pre-amplifier	COM-POWER	PAM-118A	DDT-ZC01293	2026/08/10
EMI TEST RECEIVER	R&S	ESU26	DDT-ZC01909	2027/02/27
Micro-Tronics filters	REBES	BRM50702	DDT-ZC03242	/
High pass filter	Micro-Tronics	HPM50108	DDT-ZC00560	2027/02/27
High Pass filter	Xi'an Xingbo	XBLBQ-GTA67	DDT-ZC02179	2027/02/27
Micro-Tronics filters	REBES	BRM50716	DDT-ZC03240	/
Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	DDT-ZC00506	2027/03/04
Trilog Broadband Antenna	Schwarzbeck	VULB 9163	DDT-ZC02050	2026/07/25
Hochgewinn-Hornantenne	SCHWARZBECK	BBHA 9120 D	DDT-ZC02129	2026/08/11
Active Loop Antenna	Schwarzbeck	FMZB1519	DDT-ZC00524	2026/08/18
PSA Series Spectrum Analyzer	Agilent	E4447A	DDT-ZC00517	2027/02/27

5.2. Block diagram of test setup

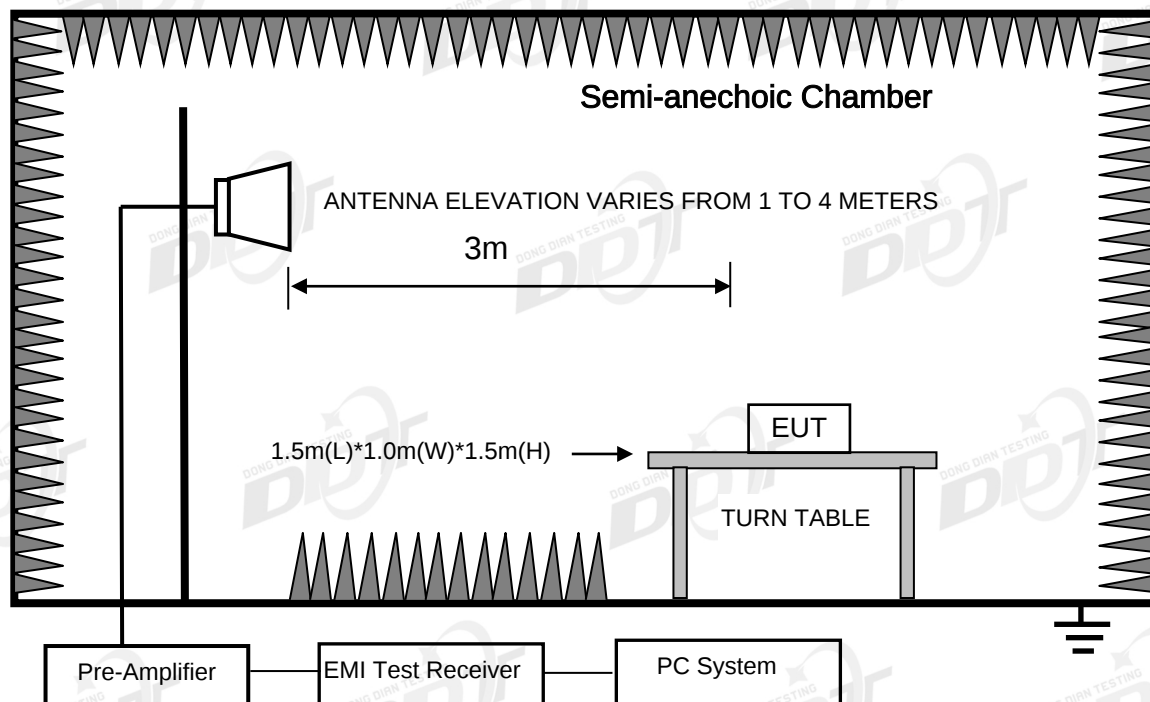
In 3 m Anechoic Chamber, test setup diagram for 9 kHz - 30 MHz:



In 3 m Anechoic Chamber, test setup diagram for 30 MHz - 1 GHz:



In 3 m Anechoic Chamber, test setup diagram for frequency above 1 GHz:



Note: For harmonic emissions test an appropriate high pass filter was inserted in the input port of AMP.

5.3. Limit

The radiated emissions at or below 960 MHz from a device operating under the provisions of this section shall not exceed the emission levels in §15.209.

Limits-Below 960 MHz

Frequency (MHz)	Distance Meters (m)	Field Strengths Limit	
		$\mu\text{V/m}$	$\text{dB}(\mu\text{V})/\text{m}$
0.009 ~ 0.490	300	2400/F(KHz)	67.6-20log(F)
0.490 ~ 1.705	30	24000/F(KHz)	87.6-20log(F)
1.705 ~ 30.0	30	30	29.54
30 ~ 88	3	100	40.0
88 ~ 216	3	150	43.5
216 ~ 960	3	200	46.0

The radiated emissions above 960 MHz from a device operating under the provisions of this section shall not exceed the following average limits when measured using a resolution bandwidth of 1 MHz:

Limits- Above 960 MHz

Frequency (MHz)	EIRP in dBm	Distance Meters (m)	Field Strengths Limit ($\text{dB}(\mu\text{V})/\text{m}$)
960-1610	-75.3	3	19.9

1610-1990	-63.3	3	41.9
1990-3100	-61.3	3	43.9
3100-10600	-41.3	3	53.9
Above 10600	-61.3	3	43.9

In addition to the radiated emission limits specified in the table in paragraph (c) of this section, UWB transmitters operating under the provisions of this section shall not exceed the following average limits when measured using a resolution bandwidth of no less than 1 kHz:

Frequency (MHz)	EIRP in dBm	Distance Meters (m)	Field Strengths Limit(μ V/m)
1164-1240	-85.3	3	9.9
1559-1610	-85.3	3	9.9

5.4. Test procedure

- (1) EUT height should be 0.8 m for below 1 GHz at a semi-anechoic chamber while EUT height should be 1.5 m for above 1 GHz at full chamber or semi-anechoic chamber ground with absorbers.
- (2) The antenna used as below table.

Test frequency range	Test antenna used	Measuring distance
9 kHz-30 MHz	Active Loop antenna	3 m
30 MHz-1 GHz	Trilog Broadband Antenna	3 m
1 GHz-18 GHz	Double Ridged Horn Antenna(1GHz-18GHz)	3 m
18 GHz-40 GHz	Horn Antenna(18GHz-40GHz)	1 m

According ANSI C63.10:2020, for measurements below 30 MHz, the loop antenna was positioned with its plane vertical from the EUT and rotated about its vertical axis for maximum response at each azimuth position around the EUT. And the loop antenna also be positioned with its plane horizontal at the specified distance from the EUT. The center of the loop is 1 m above the ground. for measurement above 30 MHz, the Trilog Broadband Antenna or Horn Antenna was located 3 m from EUT, Measurements were made with the antenna positioned in both the horizontal and vertical planes of Polarization, and the measurement antenna was varied from 1 m to 4 m. in height above the reference ground plane to obtain the maximum signal strength.

- (3) Below pre-scan procedure was first performed in order to find prominent frequency spectrum radiated emissions from 9 kHz to 40 GHz:

- (a) Scanning the peak frequency spectrum with the antenna specified in step (3), and the EUT

was rotated 360 degree, the antenna height was varied from 1 m to 4 m (Except loop antenna, it's fixed 1m above ground.)

- (b) Change work frequency or channel of device if practicable.
- (c) Change modulation type of device if practicable.
- (d) Change power supply range from 85% to 115% of the rated supply voltage
- (e) Rotated EUT though three orthogonal axes to determine the attitude of EUT arrangement produces highest emissions.

Spectrum frequency from 9 kHz to 40 GHz (tenth harmonic of fundamental frequency) was investigated.

- (4) For final emissions measurements at each frequency of interest, the EUT was rotated and the antenna height was varied between 1 m and 4 m in order to maximize the emission. Measurements in both horizontal and vertical polarities were made and the data was recorded. In order to find the maximum emission, the relative positions of equipments and all of the interface cables were changed according to ANSI C63.10 2020 on Radiated Emission test.
- (5) The emissions from 9 kHz to 1 GHz were measured based on CISPR QP detector except for the frequency bands 9-90 kHz, 110-490 kHz, for emissions from 9 kHz-90 kHz, 110 kHz-490 kHz and above 1 GHz were measured based on average detector.
- (6) The emissions from 9 kHz to 1 GHz, QP or average values were measured with EMI receiver with below RBW

Frequency band	RBW
9 kHz-150 kHz	200 Hz
150 kHz-30 MHz	9 kHz
30 MHz-1 GHz	120 kHz

5.5. Test result

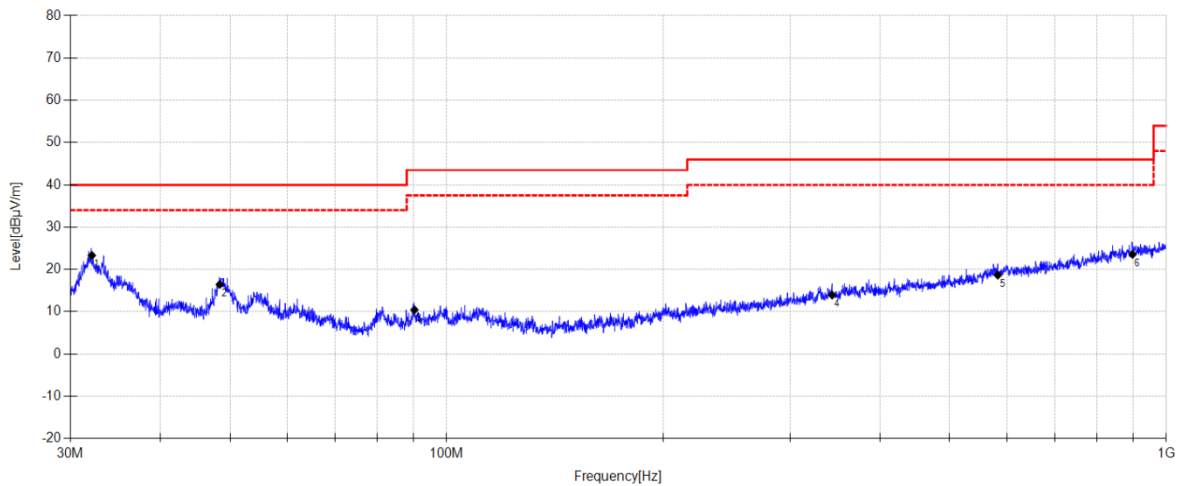
Pass. (See below detailed test result)

All the emissions except fundamental emission from 9 kHz to 40 GHz were comply with 15.209 & 15.517 limit.

Note: According exploratory test, the emission levels are 20 dB below the limit detected from 9 kHz to 30 MHz and 18 GHz to 40 GHz, so the final test was performed with frequency range from 30 MHz to 18 GHz and recorded in below.

TR-4-E-009 Radiated Emission Test Result

Test Date: 2026-02-06 **Tested By:** Cao Jie
Test Mode: TX UWB Mode **Power Supply:** Battery
Condition: Temp:24.4°C;Humi:57.1% **Test Site:** DDT 3# Chamber
File Path: d:\ts\2026 report data\Q26011512-1E\FCC BELOW 1G\5
Memo: Sample Numble:S26011512-002

**Final Data List**

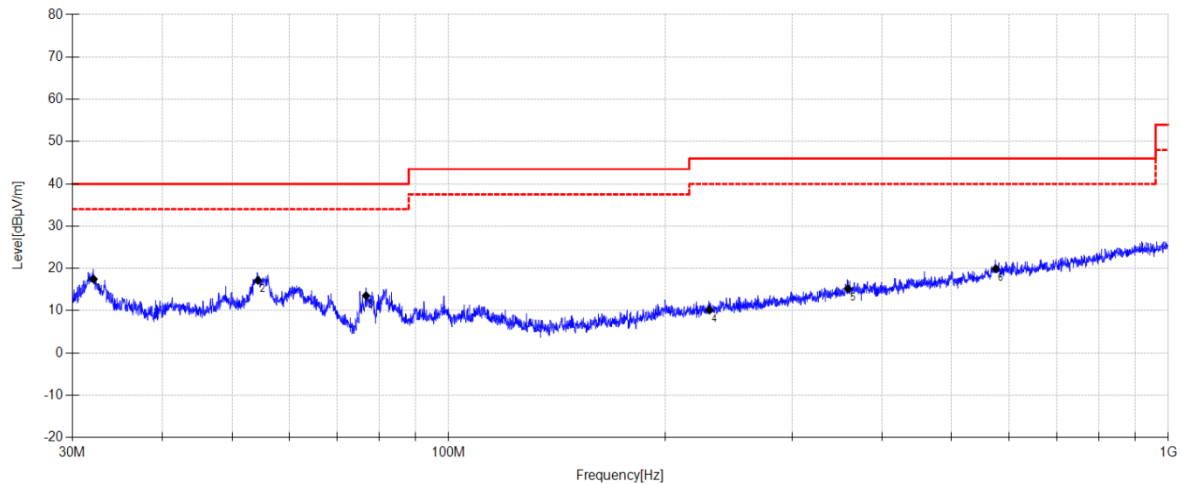
NO.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable Loss [dB]	Result [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	32.134	40.91	10.90	3.81	23.32	40.00	16.68	QP	Horizontal
2	48.395	31.43	13.36	3.97	16.46	40.00	23.54	QP	Horizontal
3	90.201	28.82	9.68	4.25	10.45	43.50	33.05	QP	Horizontal
4	343.253	26.32	14.59	5.47	13.94	46.00	32.06	QP	Horizontal
5	583.214	26.41	18.71	6.34	18.65	46.00	27.35	QP	Horizontal
6	897.645	26.71	21.66	7.11	23.57	46.00	22.43	QP	Horizontal

Note:

1. Result Level = Reading + Cable loss + Antenna Factor + AMP
2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.
3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date: 2026-02-06 **Tested By:** Cao Jie
Test Mode: TX UWB Mode **Power Supply:** Battery
Condition: Temp:24.4°C;Humi:57.1% **Test Site:** DDT 3# Chamber
File Path: d:\ts\2026 report data\Q26011512-1E\FCC BELOW 1G\6
Memo: Sample Numbler:S26011512-002

**Final Data List**

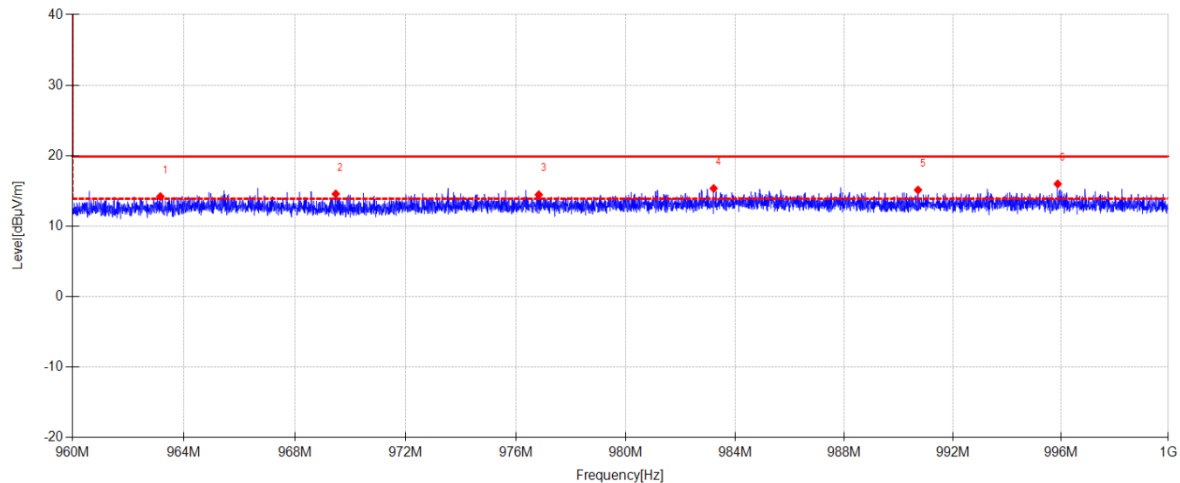
NO.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable Loss [dB]	Result [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	32.111	35.06	10.90	3.81	17.47	40.00	22.53	QP	Vertical
2	54.331	32.3	13.17	4.01	17.18	40.00	22.82	QP	Vertical
3	76.766	33.68	8.01	4.18	13.57	40.00	26.43	QP	Vertical
4	230.328	25.41	12.15	5.00	10.16	46.00	35.84	QP	Vertical
5	358.756	27.05	15.12	5.53	15.24	46.00	30.76	QP	Vertical
6	575.900	27.73	18.69	6.31	19.94	46.00	26.06	QP	Vertical

Note:

1. Result Level = Reading + Cable loss + Antenna Factor + AMP
2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.
3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date: 2026-04-01 **Tested By:** Cao Jie
Test Mode: TX UWB Mode **Power Supply:** Battery
Condition: Temp:23.8°C;Humi:61.8% **Test Site:** DDT 3# Chamber
File Path: d:\ts\2026 report data\Q26011512-1E\FCC ABOVE 1G UWB\29
Memo: Sample Number:S26011512-003



Suspected Data List

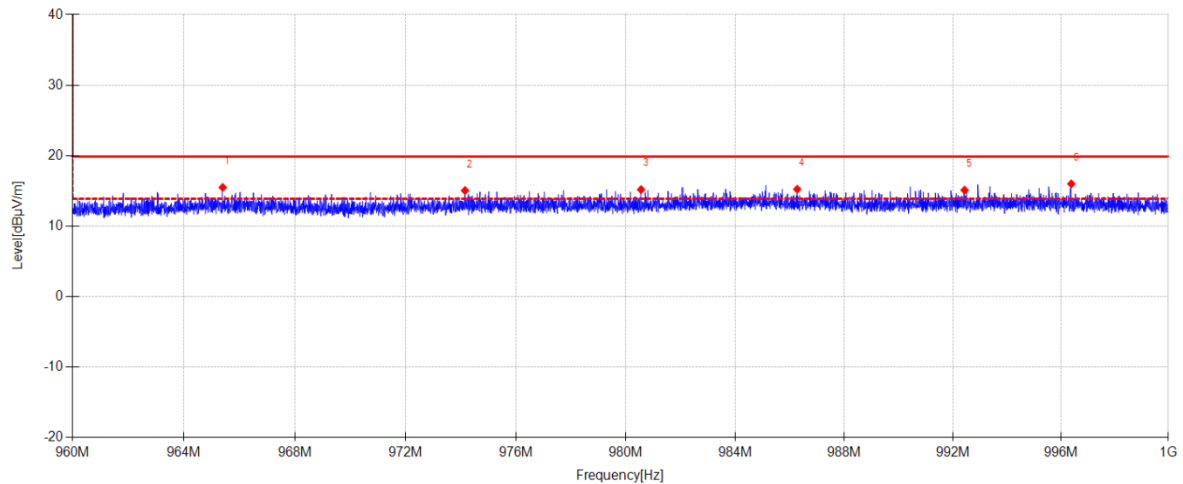
NO	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	963.152	31.66	22.35	7.27	-47.08	14.20	19.90	5.70	AV	Horizontal
2	969.464	32.37	21.96	7.28	-47.04	14.57	19.90	5.33	AV	Horizontal
3	976.824	31.96	22.20	7.30	-47.00	14.46	19.90	5.44	AV	Horizontal
4	983.208	32.53	22.46	7.32	-46.96	15.35	19.90	4.55	AV	Horizontal
5	990.720	32.45	22.26	7.34	-46.92	15.13	19.90	4.77	AV	Horizontal
6	995.888	32.99	22.53	7.35	-46.88	15.99	19.90	3.91	AV	Horizontal

Note:

1. Level = Reading + Cable loss + Antenna Factor + AMP
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date: 2026-04-01 **Tested By:** Cao Jie
Test Mode: TX UWB Mode **Power Supply:** Battery
Condition: Temp:23.8°C;Humi:61.8% **Test Site:** DDT 3# Chamber
File Path: d:\ts\2026 report data\Q26011512-1E\FCC ABOVE 1G UWB\30
Memo: Sample Number:S26011512-003

**Suspected Data List**

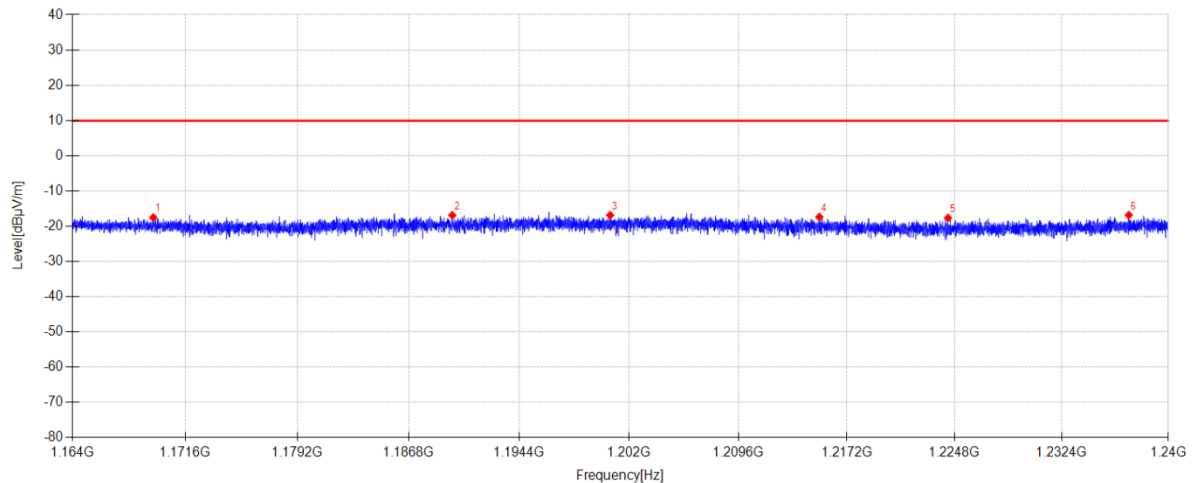
NO	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	965.392	32.85	22.45	7.27	-47.07	15.50	19.90	4.40	AV	Vertical
2	974.144	32.62	22.15	7.30	-47.02	15.05	19.90	4.85	AV	Vertical
3	980.552	32.62	22.24	7.31	-46.98	15.19	19.90	4.71	AV	Vertical
4	986.272	32.35	22.50	7.33	-46.94	15.24	19.90	4.66	AV	Vertical
5	992.440	32.28	22.40	7.34	-46.91	15.11	19.90	4.79	AV	Vertical
6	996.392	33.04	22.49	7.35	-46.88	16.00	19.90	3.90	AV	Vertical

Note:

1. Level = Reading + Cable loss + Antenna Factor + AMP
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date: 2026-04-01 **Tested By:** Cao Jie
Test Mode: TX UWB Mode **Power Supply:** Battery
Condition: Temp:23.8°C;Humi:61.8% **Test Site:** DDT 3# Chamber
File Path: d:\ts\2026 report data\Q26011512-1E\FCC ABOVE 1G UWB\25
Memo: Sample Number:S26011512-003



Suspected Data List

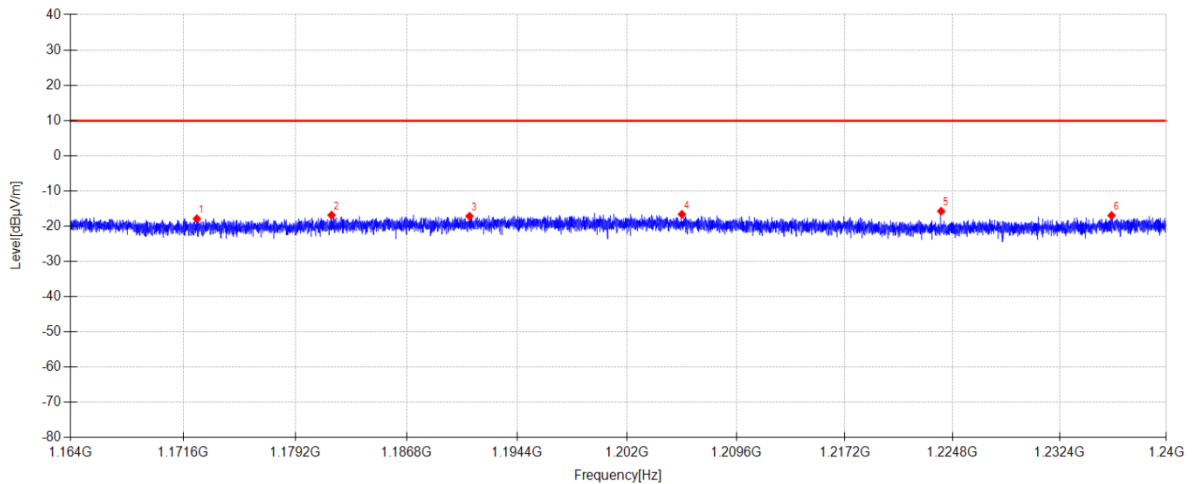
NO	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	1169.449	7.01	25.68	2.04	-52.27	-17.54	9.90	27.44	AV	Horizontal
2	1189.802	7.79	25.56	2.05	-52.30	-16.90	9.90	26.80	AV	Horizontal
3	1200.693	7.85	25.50	2.06	-52.32	-16.91	9.90	26.81	AV	Horizontal
4	1215.277	7.36	25.53	2.07	-52.35	-17.39	9.90	27.29	AV	Horizontal
5	1224.329	7.07	25.55	2.08	-52.36	-17.66	9.90	27.56	AV	Horizontal
6	1237.173	7.86	25.57	2.08	-52.39	-16.88	9.90	26.78	AV	Horizontal

Note:

1. Level = Reading + Cable loss + Antenna Factor + AMP
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date: 2026-04-01 **Tested By:** Cao Jie
Test Mode: TX UWB Mode **Power Supply:** Battery
Condition: Temp:23.8°C;Humi:61.8% **Test Site:** DDT 3# Chamber
File Path: d:\ts\2026 report data\Q26011512-1E\FCC ABOVE 1G UWB\26
Memo: Sample Number:S26011512-003



Suspected Data List

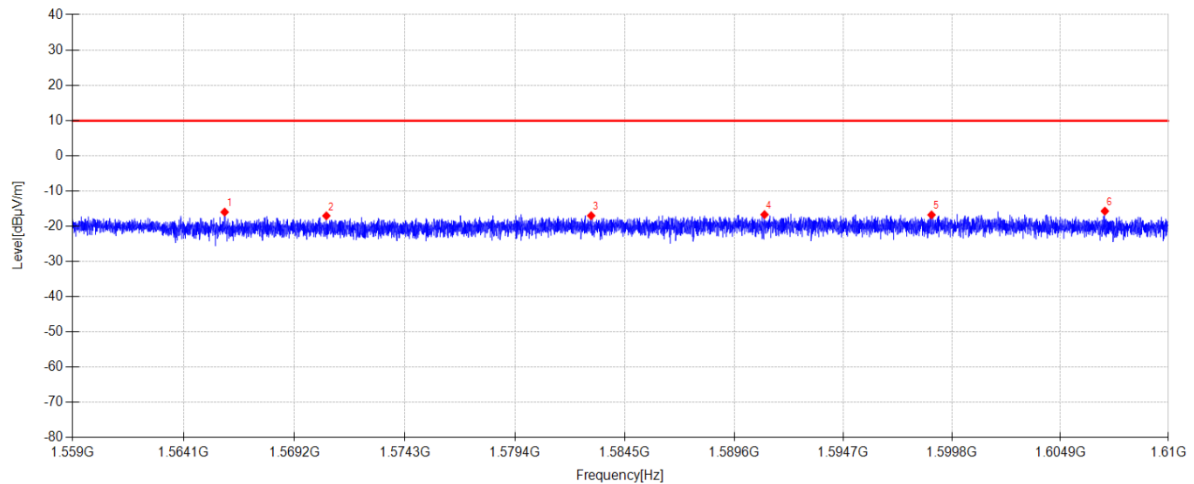
NO	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	1172.535	6.68	25.66	2.04	-52.27	-17.89	9.90	27.79	AV	Vertical
2	1181.685	7.77	25.61	2.05	-52.29	-16.86	9.90	26.76	AV	Vertical
3	1191.124	7.53	25.55	2.05	-52.30	-17.17	9.90	27.07	AV	Vertical
4	1205.815	8.12	25.51	2.06	-52.33	-16.64	9.90	26.54	AV	Vertical
5	1223.994	8.97	25.55	2.08	-52.36	-15.76	9.90	25.66	AV	Vertical
6	1236.086	7.76	25.57	2.08	-52.38	-16.97	9.90	26.87	AV	Vertical

Note:

1. Level = Reading + Cable loss + Antenna Factor + AMP
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date: 2026-04-01 **Tested By:** Cao Jie
Test Mode: TX UWB Mode **Power Supply:** Battery
Condition: Temp:23.8°C;Humi:61.8% **Test Site:** DDT 3# Chamber
File Path: d:\ts\2026 report data\Q26011512-1E\FCC ABOVE 1G UWB\27
Memo: Sample Number:S26011512-003

**Suspected Data List**

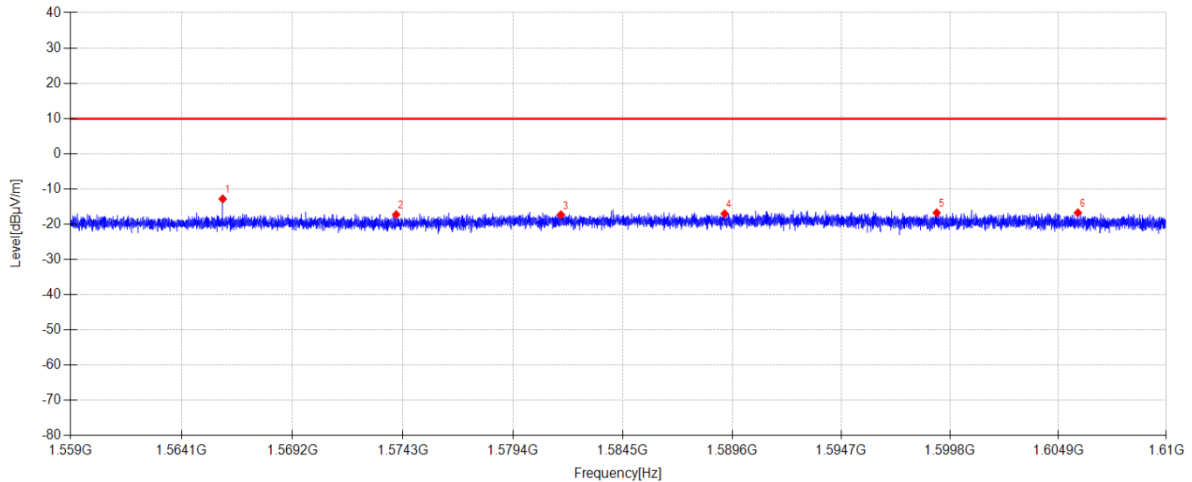
NO	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	1565.992	9.11	25.56	2.30	-52.98	-16.01	9.90	25.91	AV	Horizontal
2	1570.674	8.04	25.58	2.30	-52.99	-17.07	9.90	26.97	AV	Horizontal
3	1582.939	8.04	25.63	2.31	-53.01	-17.03	9.90	26.93	AV	Horizontal
4	1591.018	8.33	25.66	2.31	-53.02	-16.72	9.90	26.62	AV	Horizontal
5	1598.841	8.22	25.70	2.32	-53.04	-16.80	9.90	26.70	AV	Horizontal
6	1607.001	9.39	25.60	2.32	-53.05	-15.74	9.90	25.64	AV	Horizontal

Note:

1. Level = Reading + Cable loss + Antenna Factor + AMP
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date: 2026-04-01 **Tested By:** Cao Jie
Test Mode: TX UWB Mode **Power Supply:** Battery
Condition: Temp:23.8°C;Humi:61.8% **Test Site:** DDT 3# Chamber
File Path: d:\ts\2026 report data\Q26011512-1E\FCC ABOVE 1G UWB\28
Memo: Sample Number:S26011512-003

**Suspected Data List**

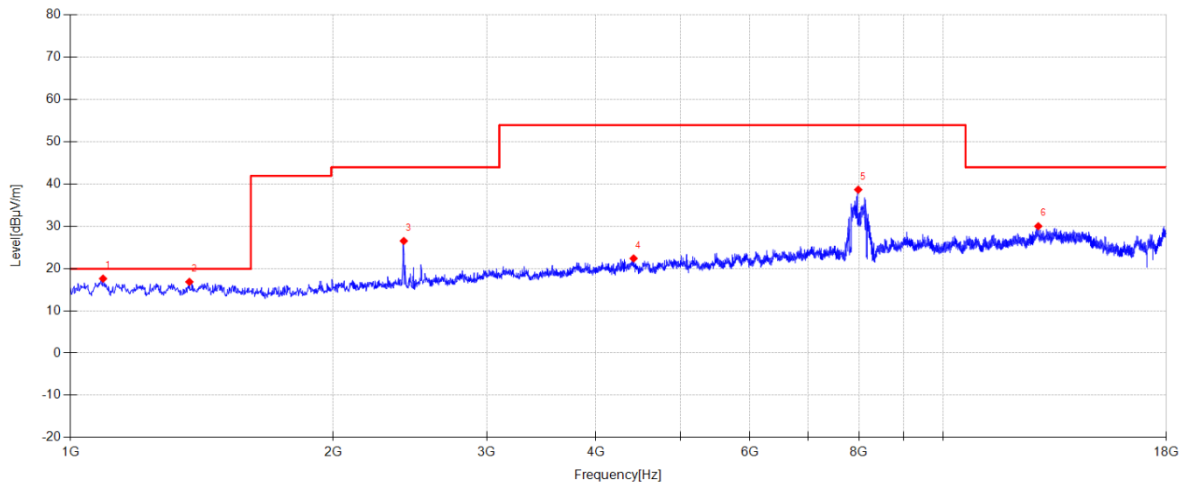
NO	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	1565.992	12.30	25.56	2.30	-52.98	-12.82	9.90	22.72	AV	Horizontal
2	1573.989	7.82	25.60	2.30	-52.99	-17.27	9.90	27.17	AV	Horizontal
3	1581.624	7.75	25.63	2.31	-53.01	-17.32	9.90	27.22	AV	Horizontal
4	1589.248	8.01	25.66	2.31	-53.02	-17.04	9.90	26.94	AV	Horizontal
5	1599.178	8.25	25.70	2.32	-53.04	-16.77	9.90	26.67	AV	Horizontal
6	1605.823	8.34	25.62	2.32	-53.05	-16.77	9.90	26.67	AV	Horizontal

Note:

1. Level = Reading + Cable loss + Antenna Factor + AMP
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date: 2026-03-31 **Tested By:** Cao Jie
Test Mode: TX UWB Mode **Power Supply:** Battery
Condition: Temp:23.8°C;Humi:61.8% **Test Site:** DDT 3# Chamber
File Path: d:\ts\2026 report data\Q26011512-1E\FCC ABOVE 1G UWB\17
Memo: Sample Number:S26011512-003

**Suspected Data List**

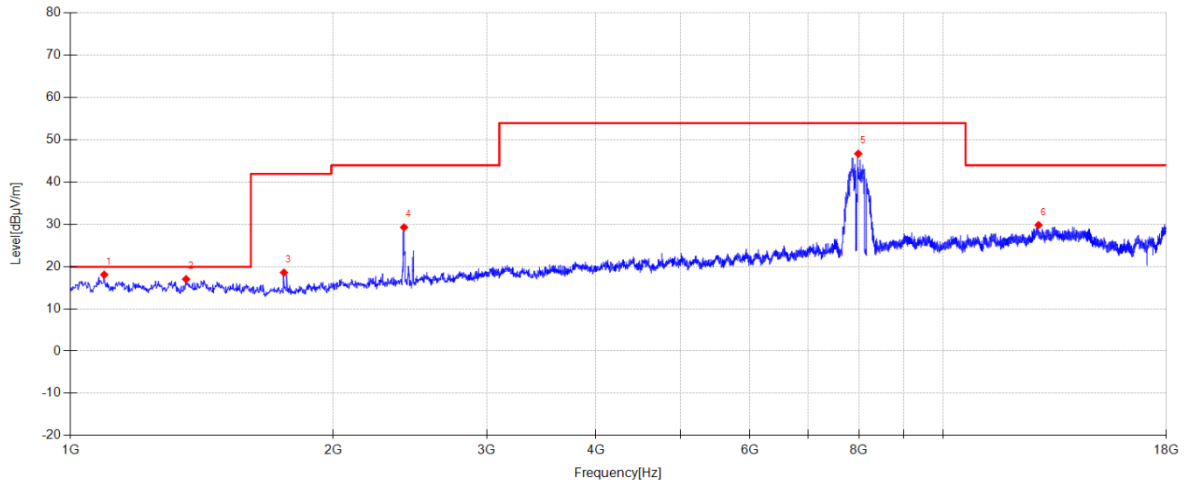
NO	Freq. [MHz]	Reading [dBV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	1090.100	42.10	25.62	1.99	-52.12	17.59	19.90	2.31	AV	Horizontal
2	1368.900	41.64	25.64	2.17	-52.62	16.83	19.90	3.07	AV	Horizontal
3	2409.300	50.29	27.36	3.06	-54.21	26.50	43.90	17.40	AV	Horizontal
4	4417.000	41.27	31.76	4.64	-55.30	22.37	53.90	31.53	AV	Horizontal
5	7987.000	50.97	37.32	5.70	-55.36	38.63	53.90	15.27	AV	Horizontal
6	12840.500	37.16	40.04	7.27	-54.49	29.98	43.90	13.92	AV	Horizontal

Note:

1. Level = Reading + Cable loss + Antenna Factor + AMP
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date: 2026-03-31 **Tested By:** Cao Jie
Test Mode: TX UWB Mode **Power Supply:** Battery
Condition: Temp:23.8°C;Humi:61.8% **Test Site:** DDT 3# Chamber
File Path: d:\ts\2026 report data\Q26011512-1E\FCC ABOVE 1G UWB\18
Memo: Sample Number:S26011512-003



Suspected Data List

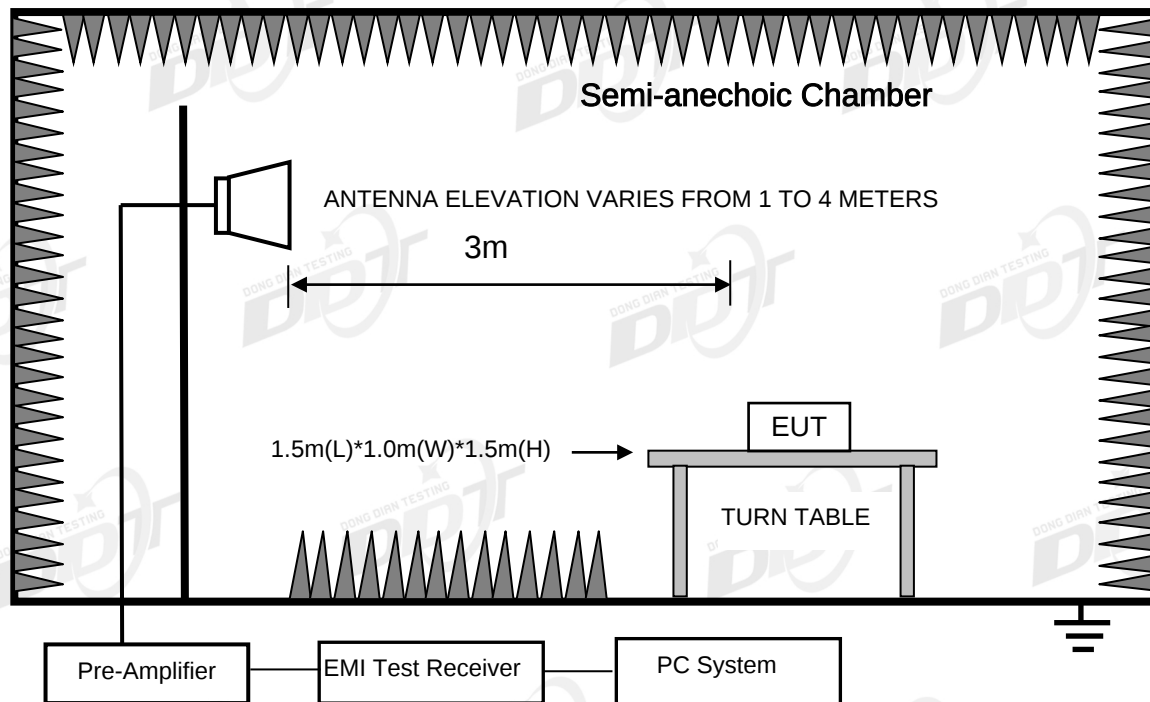
NO	Freq. [MHz]	Reading [dBV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	1093.500	42.58	25.61	1.99	-52.13	18.05	19.90	1.85	AV	Vertical
2	1357.000	42.00	25.43	2.16	-52.60	16.99	19.90	2.91	AV	Vertical
3	1756.500	43.85	25.60	2.42	-53.32	18.55	41.90	23.35	AV	Vertical
4	2411.000	53.04	27.36	3.06	-54.21	29.25	43.90	14.65	AV	Vertical
5	7987.000	58.99	37.32	5.70	-55.36	46.65	53.90	7.25	AV	Vertical
6	12850.700	36.94	40.05	7.27	-54.48	29.78	43.90	14.12	AV	Vertical

Note:

1. Level = Reading + Cable loss + Antenna Factor + AMP
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

6. Peak Emissions in a 50 MHz bandwidth

6.1. Block diagram of test setup



Note: For harmonic emissions test an appropriate high pass filter was inserted in the input port of AMP.

6.2. Limit

According to FCC Part 15.517(e):

There is a limit on the peak level of the emissions contained within a 50 MHz bandwidth centered on the frequency at which the highest radiated emission occurs, fM. That limit is 0 dBm EIRP.

6.3. Test procedure

Same with clause 6.3 except the EUT should be in the receiving Mode.

- (1) EUT height should be 0.8 m for below 1 GHz at a semi-anechoic chamber while EUT height should be 1.5 m for above 1 GHz at full chamber or semi-anechoic chamber ground with absorbers.
- (2) Measurements were made with the antenna positioned in both the horizontal and vertical planes of Polarization, and the measurement antenna was varied from 1 m to 4 m. in height above the reference ground plane to obtain the maximum signal strength.
- (3) Below pre-scan procedure was first performed in order to find prominent frequency spectrum

radiated emissions from 9 kHz to 40 GHz:

(a) Scanning the peak frequency spectrum with the antenna specified in step (3), and the EUT was rotated 360 degree, the antenna height was varied from 1 m to 4 m (Except loop antenna, it's fixed 1m above ground.)

(b) Change work frequency or channel of device if practicable.

(c) Change modulation type of device if practicable.

(d) Change power supply range from 85% to 115% of the rated supply voltage

(e) Rotated EUT though three orthogonal axes to determine the attitude of EUT arrangement produces highest emissions.

(4) For final emissions measurements at each frequency of interest, the EUT was rotated and the antenna height was varied between 1 m and 4 m in order to maximize the emission. Measurements in both horizontal and vertical polarities were made and the data was recorded. In order to find the maximum emission, the relative positions of equipments and all of the interface cables were changed according to ANSI C63.10 2020 on Radiated Emission test.

6.4. Test result

Channel (MHz)	Reading Level (db μ v/m)	EIRP (dBm/ MHz)	EIRP (dBm/ 50 MHz)	Limit (dBm/ 50 MHz)	Verdict
8032.400	46.83	-48.37	-14.37	0	Pass

Note: 1. The correct factor of RBW 1 MHz to 50 MHz is $20\log(50 \text{ MHz} / 1 \text{ MHz})=34$

2. $E[\text{db}\mu\text{v/m}] = \text{EIRP} [\text{dBm}] + 95.2$, for $d=3$ meters.

d: The test distance

7. Antenna Requirements

7.1. Limit

According to FCC 47 CFR Section 15.203

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section

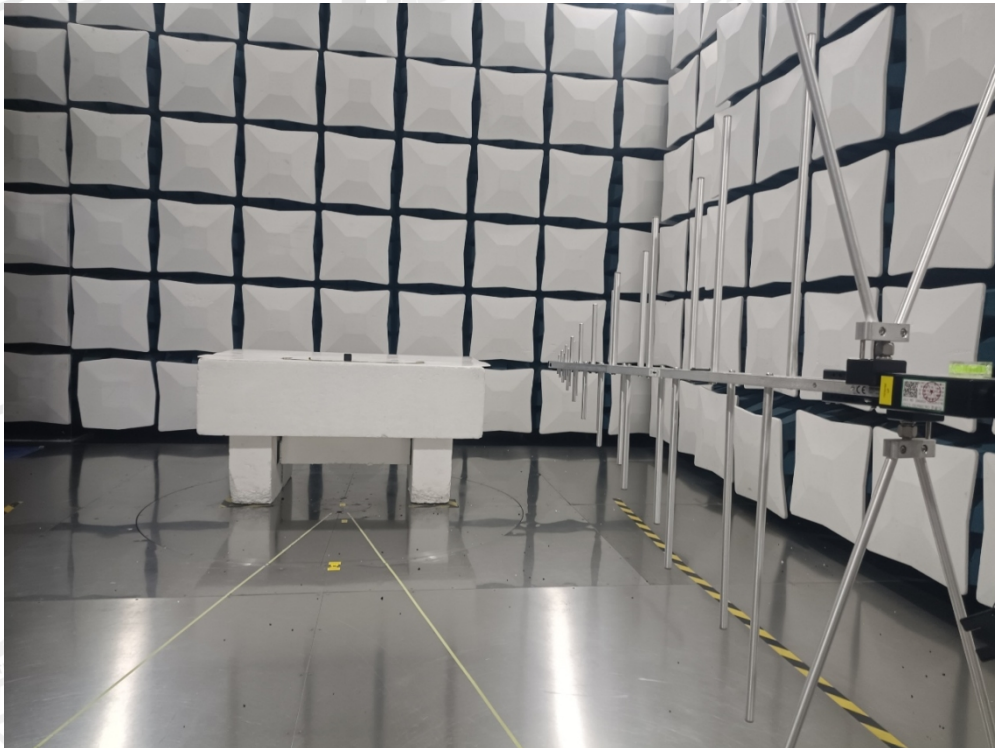
According to FCC 47 CFR Section 15.517a

The use of outdoor mounted antennas, e.g., antennas mounted on the outside of a building or on a telephone pole, or any other outdoors infrastructure is prohibited.

7.2. Result

The device has internal antenna which was permanently attached and maximum antenna gain is 3 dBi, so compliance with the limit.

8. Test Setup Photograph





9. Photos of the EUT

Please refer to DDT-Q26011512-2E appendix I

END OF REPORT